REMARKS

Applicants have amended the specification to update the status of patent applications referenced therein. Applicants have also amended independent claims 1, 18, 32, 35, 40, 45, 50, 52, 57, 63, 65, 76, 82, 85, 86, 93, 100, 107, 111, 113, 116, and 119.

Claims 1-4, 10-14, 17-21, 28-34, 45-46, 50-58, 61,„65-68, 76-78, 81, 85 and 100-102 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,729, 228 to Franaszek et al. ("Franaszek") or U.S. Patent No. 5,109,226 to MacLean, Jr. et al. ("MacLean"). Claims 1-5, 10-15, 17-22, 28-34, 45-46, 50-59, 61, 65-69, 76-79, 81, 85, and 100-102 were rejected under 35 U.S.C. 102(e) as anticipated by U.S. Patent No. 6,304,197 B1 to Freking et al. ("Freking"). Claims 6-8, 16, 23-25, 27, 47-48, 60, 63-64, 70-75, 80, 82-84 and 103-112 were rejected under 35 U.S.C. 102(b) as anticipated by Franaszek. Claims 5, 15, 22, 59, 69, and 79 were rejected under 35 U.S.C. § 102(b) as anticipated by MacLean. Claims 35-38, 40-43, and 86-99 were rejected under 35 U.S.C. § 103(a) as unpatentable over Franaszek in view of U.S. Patent No. 5,608,396 to Cheng et al. ("Cheng"). Claims 113-119 were rejected under 35 U.S.C. § 103(a) as unpatentable over Franaszek. Claims 9, 26, 39, 44, 49, and 62 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Each of the rejected claims was rejected either under § 102 in view of Franaszek, Freking, or MacLean, or § 103 in view of Franaszek individually or in combination with Cheng. For the reasons discussed below, Applicants respectfully traverse these claim rejections and submit that Franaszek, Freking, and MacLean, either individually or in combination with the other cited patents, do not teach Applicants' claimed invention.

In particular, Applicants submit that their claimed invention can be distinguished from Franaszek and MacLean for at least the reason that each of the parallel compression engines in

Applicants' claimed invention operate independently of the other engines. On the other hand, the operation of each of the compression engines in Franaszek and MacLean is dependent on the other engines, and thus they do not operate independently. Applicants have amended each of the independent claims to more particularly point out this distinction.

In Franaszek, the compression engines, referred to as "compressors," "cooperatively construct a dynamic compression dictionary and compress the sub-blocks in parallel using the dictionary." *See* Abstract and Fig. 2. *See also* Col. 1, lines 48-50: "The present invention alleviates the above-described problem with dictionary type coding by introducing cooperation among the compressors." Furthermore: "Since the compressed sub-blocks were encoded using a logically shared dictionary, a logically shared dictionary 345 is required for the decompression." Col. 3, lines 26-28. Thus, unlike Applicants' claimed invention, the compression engines in Franaszek do not operate independently.

Similarly, each of the compression engines of MacLean, referred to as "compaction processors," is dependent on the other engines/processors. In MacLean, the data to be compacted is divided into equal sized sets of data for each compaction processor. *See* Col. 2, lines 58-60. Each compaction processor must process the data directed to it in a known maximum amount of time. *See* Abstract. "Each additional compaction processor affects the statistics format of the entire compaction process." Col. 5, lines 34-35. *See also* Fig. 1. Furthermore, the timing of the processing of each compaction processor is dependent on the timing of the preceding compaction processor in a sequence. For example, MacLean states that: "the signal A-mout transfers the control from one CP [compaction processor] unit to the next. On the write cycle, which is when the data stream from the host is compacted and written onto the tape media, the stream of data is directed to all storage devices in the A section of the compaction processor. The storage device 136 signals the event counter 132, that one set of data has been received, i.e., 512 bytes. The event counter 132, in turn, signals the interface control 134 unit that CP1 [compaction processor 1] has received its section of data, i.e., one

set, and the next set of data should be received by CP2 [compaction processor 2]." *See* Col. 7, line 24 to Col. 8, line 18. For at least these reasons, MacLean does not teach Applicants' claimed invention.

Finally, Applicants submit that the Freking patent is not relevant to Applicants claimed invention. Freking does not pertain to a system or method for compressing respective portions of data in parallel. Rather, Freking pertains to data compression wherein after compression the resulting data elements may be separated and processed in parallel. Freking discusses the variable-length coding (VLC) digital signal processing technique which is often used to compress data. Freking notes that in the prior art there is no discernible demarcation between the data elements resulting from the VLC technique. However, Freking describes a means of separating and processing multiple data elements in parallel after VLC compression. *See* Col. 1, lines 18-61, Col. 4, lines 64-65, and Col. 5, lines 15-45. Freking does not describe compressing such data in parallel.

For at least these reasons, Applicants submit that their independent claims, as amended herein, are allowable over Franaszek, Freking, and MacLean, either individually or in combination with the other cited patents. Applicants further submit that the dependent claims are allowable for at least these same reasons.

CONCLUSION

In view of the amendments and remarks set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is requested to telephone the undersigned.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned **"Version With Markings To Show Changes Made."**

Respectfully submitted,

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CERTIFICATION UNDER 37 C.F.R. § 1.8

I hereby certify that this correspondence (along with any item referred to as being enclosed herewith) is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to Box Non-Fee Amendment, Commissioner for Patents, Washington, D.C. 20231, on March 26, 2003.

Signature

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In The Specification

Continuation Data

This application is a continuation-in-part (CIP) of U.S. patent application Serial No. 09/818,283 titled "SYSTEM AND METHOD FOR PERFORMING SCALABLE EMBEDDED PARALLEL DATA COMPRESSION" filed March 27, 2001, whose inventors were Manuel J. Alvarez II, Peter Geiger, and Thomas A. Dye, is hereby incorporated by reference in its entirety as though fully and completely set forth herein;

which is a continuation-in-part of U.S. patent application Serial No. 09/421,968 titled "SYSTEM AND METHOD FOR PERFORMING SCALABLE EMBEDDED PARALLEL DATA COMPRESSION" filed October 20, 1999 whose inventors were Manuel J. Alvarez II, Peter Geiger, and Thomas A. Dye, now U.S. Patent No. 6,208,273;

which is a continuation-in-part of U.S. patent application Serial No. 09/239,659 titled "BANDWIDTH REDUCING MEMORY CONTROLLER INCLUDING SCALABLE EMBEDDED PARALLEL DATA COMPRESSION AND DECOMPRESSION ENGINES" filed January 29, 1999 whose inventors were Thomas A. Dye, Manuel J. Alvarez II, and Peter Geiger. Pursuant to a Response to Office Action of August 5, 2002, this application is currently pending a title change from the above to "SELECTIVE LOSSLESS, LOSSY, OR NO COMPRESSION OF DATA BASED ON ADDRESS RANGE, DATA TYPE, AND/OR REQUESTING AGENT."

Incorporation by Reference

U.S. Patent No. 6,208,273 titled "System and Method for Performing Scalable Embedded Parallel Data Compression", whose inventors are Thomas A. Dye, Manuel J. Alvarez II, and Peter

Geiger, and which issued on March 27, 2001, is hereby incorporated by reference in its entirety as though fully and completely set forth herein.

U.S. Patent No. 6,145,069 titled "Parallel Decompression and Compression System and Method for Improving Storage Density and Access Speed for Non-volatile Memory and Embedded Memory Devices", whose inventor is Thomas A. Dye, and which issued on November 7, 2000, is hereby incorporated by reference in its entirety as though fully and completely set forth herein.

U.S. Patent No. 6,173,381 titled "Memory Controller Including Embedded Data Compression and Decompression Engines", whose inventor is Thomas A. Dye, and which issued on January 9, 2001, is hereby incorporated by reference in its entirety as though fully and completely set forth herein.

U.S. patent application Serial No. 09/239,659 titled "Bandwidth Reducing Memory Controller Including Scalable Embedded Parallel Data Compression and Decompression Engines" and filed January 29, 1999, whose inventors are Thomas A. Dye, Manuel J. Alvarez II, and Peter Geiger, is hereby incorporated by reference in its entirety as though fully and completely set forth herein. Pursuant to a Response to Office Action of August 5, 2002, this application is currently pending a title change from the above to "Selective Lossless, Lossy, or No Compression of Data Based on Address Range, Data Type, and/or Requesting Agent."

U.S. patent application Serial No. 09/491,343 titled "System and Method for Performing Scalable Embedded Parallel Data Decompression" and filed January 26, 2000, whose inventors are Thomas A. Dye, Manuel J. Alvarez II, and Peter Geiger, is hereby incorporated by reference in its entirety as though fully and completely set forth herein.

U.S. patent application Serial no. 09/818,283 titled "System And Method For Performing Scalable Embedded Parallel Data Compression", and filed March 27, 2001, whose inventors are

Manuel J. Alvarez II, Peter Geiger and Thomas A. Dye, is hereby incorporated by reference in its entirety as though fully and completely set forth herein.

U.S. patent application Serial no. 09/821,785 titled "System And Method For Performing Scalable Embedded Parallel Data Decompression", and filed March 28, 2001, whose inventors are Manuel J. Alvarez II, Peter Geiger and Thomas A. Dye, is hereby incorporated by reference in its entirety as though fully and completely set forth herein.

U.S. patent application Serial no. ~~—/——,——~~ 09/915,751 titled "System And Method For Managing Compression And Decompression Of System Memory In A Computer System", and filed July 26, 2001, whose inventors are Peter Geiger, Manuel J. Alvarez II, and Thomas A. Dye, is hereby incorporated by reference in its entirety as though fully and completely set forth herein.

U.S. patent application Serial no. 10/044,785 titled "System And Method For Generating Optimally Compressed Data From A Plurality Of Data Compression / Decompression Engines Implementing Different Data Compression Algorithms", and filed January 11, 2002, currently herewith, whose inventors are Peter D. Geiger; Manuel J. Alvarez II; Thomas A. Dye, is hereby incorporated by reference in its entirety as though fully and completely set forth herein.

In The Claims

1. (Amended) A data compression system comprising:

a plurality of parallel compression engines, wherein each of the plurality of parallel compression engines operates independently and implements a parallel data compression algorithm;

wherein each of the plurality of parallel compression engines is operable to:

receive a different respective portion of uncompressed data; and

compress the different respective portion of the uncompressed data using the parallel data compression algorithm to produce a respective compressed portion of the uncompressed data; and

output the respective compressed portion;

wherein the plurality of parallel compression engines are configured to perform said compression in a parallel fashion to produce a plurality of respective compressed portions of the uncompressed data.

18. (Amended) A data compression system comprising:

a plurality of parallel compression engines, wherein each of the plurality of parallel compression engines operates independently and implements a parallel data compression algorithm;

first logic coupled to the plurality of parallel compression engines and configured to:

receive uncompressed first data; and

provide a different respective portion of the uncompressed first data to each of the plurality of parallel compression engines;

wherein each of the plurality of parallel compression engines is configured to:

compress the different respective portion of the uncompressed first data using the parallel data compression algorithm to produce a compressed portion of the first uncompressed data; and

output the compressed portion of the first uncompressed data;

wherein the plurality of parallel compression engines are configured to perform said compression in a parallel fashion to produce a plurality of compressed portions of the first uncompressed data.

32. (Amended) A data compression system comprising:

a plurality of compression engines, wherein each of the plurality of compression engines operates independently and implements a parallel data compression algorithm;

first logic coupled to the plurality of compression engines and configured to:

receive uncompressed data;

provide a different portion of the uncompressed data to each of the plurality of compression engines;

wherein each of the plurality of compression engines is configured to compress a received uncompressed portion of the data to produce a compressed portion of the data,

wherein, in said compressing, each of the plurality of compression engines is configured to:

maintain a history table comprising entries, wherein each entry comprises at least one symbol;

receive the uncompressed portion of the data, wherein the uncompressed portion of the data comprises a plurality of symbols;

compare the plurality of symbols with entries in the history table in a parallel fashion, wherein said comparing produces compare results;

determine match information for each of the plurality of symbols based on the compare results; and

output the compressed portion of the data in response to the match information.

35. (Amended) A memory controller, comprising:

memory control logic for controlling a memory; and

a plurality of parallel compression engines, wherein each of the plurality of parallel compression engines operates independently and implements a lossless parallel data compression algorithm;

wherein each of the plurality of parallel compression engines is operable to:

receive a different respective portion of uncompressed data; and

compress the different respective portion of the uncompressed data using the parallel data compression algorithm to produce a respective compressed portion of the uncompressed data; and

output the respective compressed portion;

wherein the plurality of parallel compression engines are configured to perform said compression in a parallel fashion to produce a plurality of respective compressed portions of the uncompressed data;

wherein the respective compressed portions output from the plurality of parallel compression engines are combinable to form compressed data corresponding to the uncompressed data.

40. (Amended) A memory module, comprising:

one or more memory devices for storing data; and

a plurality of parallel compression engines, wherein each of the plurality of parallel compression engines operates independently and implements a lossless parallel data compression algorithm;

wherein each of the plurality of parallel compression engines is operable to:

receive a different respective portion of uncompressed data; and

compress the different respective portion of the uncompressed data using the parallel data compression algorithm to produce a respective compressed portion of the uncompressed data; and

output the respective compressed portion;

wherein the plurality of parallel compression engines are configured to perform said compression in a parallel fashion to produce a plurality of respective compressed portions of the uncompressed data;

wherein the respective compressed portions output from the plurality of parallel compression engines are combinable to form compressed data corresponding to the uncompressed data.

45. (Amended) A network device, comprising:

network logic for performing networking functions; and

a plurality of parallel compression engines, wherein each of the plurality of parallel compression engines operates independently and implements a lossless parallel data compression algorithm;

wherein each of the plurality of parallel compression engines is operable to:

receive a different respective portion of uncompressed data; and

compress the different respective portion of the uncompressed data using the parallel data compression algorithm to produce a respective compressed portion of the uncompressed data; and

output the respective compressed portion;

wherein the plurality of parallel compression engines are configured to perform said compression in a parallel fashion to produce a plurality of respective compressed portions of the uncompressed data;

wherein the respective compressed portions output from the plurality of parallel compression engines are combinable to form compressed data corresponding to the uncompressed data.

50. (Amended) A data compression system comprising:

a plurality of compression engines, wherein each of the plurality of compression engines operates independently and implements a parallel data compression algorithm;

first logic coupled to the plurality of compression engines and configured to:

receive uncompressed data; and

provide a different portion of the uncompressed data to each of the plurality of compression engines;

wherein each of the plurality of compression engines is configured to:

compress the uncompressed portion of the uncompressed data provided to the particular compression engine to produce a compressed portion of the uncompressed data; and

output the compressed portion of the uncompressed data;

wherein the plurality of compression engines are configured to perform said compressing in a parallel fashion to produce a plurality of compressed portions of the uncompressed data in parallel; and

second logic coupled to the plurality of compression engines and configured to:

receive the plurality of compressed portions of the uncompressed data; and

combine the plurality of compressed portions of the uncompressed data to produce compressed data.

52. (Amended) A system comprising:

a processor;

a memory coupled to the processor and operable to store data for use by the processor;

a plurality of compression engines, wherein each of the plurality of compression engines operates independently and implements a parallel data compression algorithm; and

first logic coupled to the memory and to the plurality of compression engines and configured to:

receive uncompressed first data;

split the uncompressed first data into a plurality of uncompressed portions of the first data; and

provide the plurality of uncompressed portions of the uncompressed first data to the plurality of compression engines; and

wherein the plurality of compression engines are configured to operate concurrently to compress the plurality of uncompressed portions of the uncompressed first data to produce a plurality of compressed portions of the uncompressed first data.

57. (Amended) A method for compressing data, the method comprising:

receiving uncompressed data;

providing a different respective portion of the uncompressed data to each of a plurality of parallel compression engines, wherein each of the plurality of parallel compression engines operates independently and implements a parallel data compression algorithm;

each of the plurality of parallel compression engines compressing the different respective portion of the uncompressed data using the parallel data compression algorithm to produce a respective compressed portion of the uncompressed data, wherein the plurality of parallel compression engines operate concurrently to perform said compressing in a parallel fashion, wherein the plurality of parallel compression engines produce a plurality of respective compressed portions of the uncompressed data;

combining the plurality of respective compressed portions of the uncompressed data to produce compressed data, wherein the compressed data corresponds to the uncompressed data; and

outputting the compressed data.

63. (Amended) A method comprising:

receiving uncompressed data;

providing a different portion of the uncompressed data to each of a plurality of compression engines, wherein each of the plurality of compression engines operates independently and implements a parallel data compression algorithm;

each of the plurality of compression engines compressing its respective different portion of the uncompressed data to produce a compressed portion of the data, wherein said compressing comprises:

maintaining a history table comprising entries, wherein each entry comprises at least one symbol;

receiving the respective different portion of the uncompressed data, wherein the respective different portion of the uncompressed data comprises a plurality of symbols;

comparing the plurality of symbols with entries in the history table in a parallel fashion, wherein said comparing produces compare results;

determining match information for each of the plurality of symbols based on the compare results; and

outputting the compressed portion of the data in response to the match information.

wherein said compressing is performed by the plurality of compression engines in a parallel fashion to produce a plurality of compressed portions of the uncompressed data.

65. (Amended) A data decompression system comprising:

a plurality of parallel decompression engines, wherein each of the plurality of parallel decompression engines operates independently and implements a parallel data decompression algorithm;

wherein each of the plurality of parallel decompression engines is operable to:

receive a different respective portion of compressed data; and

decompress the different respective portion of the compressed data using the parallel data decompression algorithm to produce a respective uncompressed portion of the compressed data; and

output the respective uncompressed portion;

wherein the plurality of parallel decompression engines are configured to perform said decompression in a parallel fashion to produce a plurality of respective uncompressed portions of the compressed data.

76. (Amended) A data decompression system comprising:

a plurality of decompression engines, wherein each of the plurality of decompression engines operates independently and implements a parallel data decompression algorithm;

first logic coupled to the plurality of decompression engines and configured to:

receive compressed data; and

provide a different respective portion of the compressed data to each of the plurality of decompression engines;

wherein each of the plurality of decompression engines is configured to:

decompress the respective compressed portion of the compressed data to produce an uncompressed portion of the compressed data; and

output the uncompressed portion of the compressed data;

wherein the plurality of decompression engines are configured to operate concurrently to perform said decompressing in a parallel fashion to produce a plurality of uncompressed portions of the compressed data.

82. (Amended) A data decompression system comprising:

a plurality of decompression engines, wherein each of the plurality of decompression engines operates independently and implements a parallel data decompression algorithm;

first logic coupled to the plurality of decompression engines and configured to:

receive compressed data;

provide a different portion of the compressed data to each of the plurality of decompression engines;

wherein each of the plurality of decompression engines is configured to decompress its received different portion of the compressed data to produce an uncompressed portion of the data, wherein, in said decompressing, each of the plurality of decompression engines is configured to:

receive the different portion of the compressed data, wherein the different portion of the compressed data comprises tokens each describing one or more uncompressed symbols;

examine a plurality of tokens from the different portion of the compressed data in parallel in a current decompression cycle;

generate a plurality of selects in parallel in response to examining the plurality of tokens in parallel, wherein each of the plurality of selects points to a symbol in a combined history window; and

generate an uncompressed portion of the compressed data comprising the plurality of symbols using the plurality of selects.

85. (Amended) A data decompression system comprising:

a plurality of decompression engines, wherein each of the plurality of decompression engines operates independently and implements a parallel data decompression algorithm;

first logic coupled to the plurality of decompression engines and configured to:

receive compressed data; and

provide a different portion of the compressed data to each of the plurality of decompression engines;

wherein each of the plurality of decompression engines is configured to:

decompress the compressed portion of the data provided to the particular decompression engine to produce an uncompressed portion of the data; and

output the uncompressed portion of the data;

wherein the plurality of decompression engines is configured to perform said decompressing in a parallel fashion to produce a plurality of uncompressed portions of the data in parallel; and

second logic coupled to the plurality of decompression engines and configured to:

receive the plurality of uncompressed portions of the data; and

merge the plurality of uncompressed portions of the data to produce uncompressed data.

86. (Amended) A memory controller, comprising:

memory control logic for controlling a memory; and

a plurality of parallel decompression engines, wherein each of the plurality of parallel decompression engines operates independently and implements a parallel data decompression algorithm;

wherein each of the plurality of parallel decompression engines is operable to:

receive a different respective portion of compressed data; and

decompress the different respective portion of the compressed data using the parallel data decompression algorithm to produce a respective uncompressed portion of the compressed data; and

output the respective uncompressed portion;

wherein the plurality of parallel decompression engines are configured to perform said decompression in a parallel fashion to produce a plurality of respective uncompressed portions of the compressed data;

wherein the respective uncompressed portions output from the plurality of parallel decompression engines are combinable to form uncompressed data corresponding to the compressed data.

93. (Amended) A memory module, comprising:

at least one memory device for storing data; and

a plurality of parallel decompression engines, wherein each of the plurality of parallel decompression engines operates independently and implements a parallel data decompression algorithm;

wherein each of the plurality of parallel decompression engines is operable to:

receive a different respective portion of compressed data; and

decompress the different respective portion of the compressed data using the parallel data decompression algorithm to produce a respective uncompressed portion of the compressed data; and

output the respective uncompressed portion;

wherein the plurality of parallel decompression engines are configured to perform said decompression in a parallel fashion to produce a plurality of respective uncompressed portions of the compressed data;

wherein the respective uncompressed portions output from the plurality of parallel decompression engines are combinable to form uncompressed data corresponding to the compressed data.

100. (Amended) A network device, comprising:

network logic for interfacing to a network; and

a plurality of parallel decompression engines, wherein each of the plurality of parallel decompression engines operates independently and implements a parallel data decompression algorithm;

wherein each of the plurality of parallel decompression engines is operable to:

receive a different respective portion of compressed data; and

decompress the different respective portion of the compressed data using the parallel data decompression algorithm to produce a respective uncompressed portion of the compressed data; and

output the respective uncompressed portion;

wherein the plurality of parallel decompression engines are configured to perform said decompression in a parallel fashion to produce a plurality of respective uncompressed portions of the compressed data;

wherein the respective uncompressed portions output from the plurality of parallel decompression engines are combinable to form uncompressed data corresponding to the compressed data.

107. (Amended) A method for decompressing data, comprising:

receiving compressed data;

providing a different portion of the compressed data to each of a plurality of decompression engines, wherein each of the plurality of decompression engines operates independently and implements a parallel data decompression algorithm;

each of the plurality of decompression engines decompressing the different portion of the compressed data, wherein said decompressing produces an uncompressed portion of the data, wherein said decompressing is performed by the plurality of decompression engines in a parallel fashion to produce a plurality of uncompressed portions of the compressed data; and

combining the plurality of uncompressed portions of the compressed data to produce uncompressed data.

111. (Amended) A method comprising:

receiving compressed data;

providing a different portion of the compressed data to each of a plurality of decompression engines, wherein each of the plurality of decompression engines operates independently and implements a parallel data decompression algorithm;

each of the plurality of decompression engines decompressing a compressed portion of the data provided to the particular decompression engine to produce an uncompressed portion of the data, wherein said decompressing comprises:

receiving the compressed portion of the data, wherein the compressed portion of the data comprises tokens each describing one or more uncompressed symbols;

examining a plurality of tokens from the compressed portion of the data in parallel in a current decompression cycle;

generating a plurality of selects in parallel in response to examining the plurality of tokens in parallel, wherein each of the plurality of selects points to a symbol in a combined history window; and

generating an uncompressed portion of the data comprising the plurality of symbols using the plurality of selects;

wherein said decompressing is performed by the plurality of decompression engines in a parallel fashion to produce a plurality of uncompressed portions of the data.

113. (Amended) A data compression/decompression system comprising:

a plurality of compression engines, wherein each of the plurality of compression engines operates independently and implements a parallel data compression algorithm;

a plurality of decompression engines, wherein each of the plurality of decompression engines implements a parallel data decompression algorithm;

first logic coupled to the plurality of data compression engines and to the plurality of data decompression engines and configured to:

receive data;

if the data is uncompressed, provide a plurality of uncompressed portions of the data to each of the plurality of data compression engines; and

if the data is compressed, provide a plurality of compressed portions of the data to each of the plurality of data decompression engines;

wherein, if the data is uncompressed, the plurality of compression engines are configured to compress the plurality of uncompressed portions of the data in a parallel fashion to produce a plurality of compressed portions of the data; and

wherein, if the data is compressed, the plurality of decompression engines are configured to decompress the plurality of compressed portions of the data in a parallel fashion to produce a plurality of uncompressed portions of the data.

116. (Amended) A data compression/decompression system comprising:

a plurality of compression/decompression engines, wherein each of the plurality of compression/decompression engines operates independently and implements a parallel data compression algorithm and a parallel data decompression algorithm;

first logic coupled to the plurality of data compression/decompression engines and configured to:

receive data;

split the data into a plurality of portions of the data; and

provide the plurality of portions of the data to the plurality of data compression/decompression engines;

wherein the plurality of data compression/decompression engines is configured to:

if the data is uncompressed, compress the portions of the data in a parallel fashion to produce a plurality of compressed portions of the first data; and

if the data is compressed, decompress the portions of the data in a parallel fashion to produce a plurality of uncompressed portions of the first data.

119. (Amended) A system comprising:

a processor;

a memory coupled to the processor and operable to store data for use by the processor;

a data compression/decompression system comprising:

a plurality of compression engines, wherein each of the plurality of compression engines operates independently and implements a parallel data compression algorithm;

a plurality of decompression engines, wherein each of the plurality of decompression engines implements a parallel data decompression algorithm;

first logic coupled to the plurality of data compression engines and to the plurality of data decompression engines and configured to:

receive first data;

if the first data is uncompressed, provide a plurality of uncompressed portions of the first data to each of the plurality of compression engines; and

if the first data is compressed, provide a plurality of compressed portions of the first data to each of the plurality of decompression engines;

wherein, if the first data is uncompressed, the plurality of compression engines is configured to compress the plurality of uncompressed portions of the first data in a parallel fashion to produce a plurality of compressed portions of the first data; and

wherein, if the first data is compressed, the plurality of decompression engines is configured to decompress the plurality of compressed portions of the first data in a parallel fashion to produce a plurality of uncompressed portions of the first data.

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